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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,950	01/29/2002	Hirochika Matsuoka	03560.002986.	3587

5514 7590 06/20/2006

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
RAHMJOO, MANUCHER	

ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,950	MATSUOKA ET AL.	
	Examiner	Art Unit	
	Mike Rahmjoo	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 9 line 3 recites "...display state can be arbitrarily switched...". It is unclear whether a display state is or is not switched.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Tamamgawa (US Patent 6522778).

As per claims 1 and 15 and as to the broadest reasonable interpretation by examiner, Tamagawa teaches a color-distribution-information input step, of inputting color-distribution information indicating color coordinate values in a second type of color system for sample points in a first type of color system see for example column 6 lines 1- 30 for the first and second colorimeter for measuring colorimetric values (colorimeter value correction corresponding to color distribution from first to second) of the color image; a user's-instruction input step, of inputting an instruction of a user relating to an operation of generating object-surface information in the second type of color system see for example fig. 3 for the flow chart for generating the colorimetric values for the first and second color system; and a generation step, of generating three-dimensional-object-surface information for the second type of color system in accordance with the instruction of the user, based on the color-distribution information see for example fig. 3 (determining and generating target gradations and colorimetric values in flow chart corresponding to user instructions) and column 6 lines 20- 30 for

generation of the three dimensional color image; and performing pseudo three dimensional display according to the three dimensional object surface information see for example fig. 5 corresponding to three dimensional display and column 7 lines 35-45 for the grid points represented by small circles representing LAB values of a CM lut in the RGB coordinate system corresponding to the pseudo three dimensional display.

Claims 1-9, 11- 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Beretta et al (US Patent 5,416,890).

As per claims 1, 15-16 and 21- 22 and as to the broadest reasonable interpretation by examiner, Beretta teaches a color-distribution-information input step, of inputting color-distribution information indicating color coordinate values in a second type of color system for sample points in a first type of color system see for example fig. 9 and column 19 lines 20- 25 for RGB into XYZ and LAB values corresponding to color distribution of color spaces; and a user's-instruction input step, of inputting an instruction of a user relating to an operation of generating object-surface information in the second type of color system see for example fig. 1 for the user input and color editing means for performing color editing functions on the display means corresponding to generating object surface information; a step of selecting sample points in accordance with said user instructions from the sample points in the first type of color system and obtaining the color coordinate values in the second type of color system for said selected sample points see for example fig. 21- 25 and fig. 26 for procedure 390 for computing the graphics data needed to display the gamut in the new

current space (corresponding to second color space) which takes as input the value of the current color space and the gamut coordinates (corresponding to the color values of the second color space) just computed in procedure 370; and a generation step, of generating three-dimensional-object-surface information for the second type of color system in accordance with the instruction of the user, based on the color-distribution information see for example fig.16 a- b for color editing according to the graphical user interface, showing color representation in three- dimensional rectangular and cylindrical coordinate systems corresponding to generation step; and performing pseudo three dimensional display according to the three dimensional object surface information see for example column 50 lines 50- 67 for plotting three dimensional solid of reproducible colors in any available color space corresponding to three dimensional displaying.

As per claim 2 Beretta teaches a display-viewpoint/positional-information control step, of controlling at least one of a viewpoint, a line of sight, a position of an object, rotation of the object, a position of a screen, and an angle of the screen, in accordance with the instruction from the user see for example column 49 lines 60- 67 for controlling the display of histogram color space 540 (FIG. 29) wherein boxes 522, 524, 536, and 538, controls the positioning (broadly corresponding to the view point and position of a screen) and display along x-axis 542 of each successive L* grouping of colors; and a display control step, of controlling pseudo-three-dimensional display of the three-dimensional-object-surface information, based on display-control information including

at least one of viewpoint information, line-of-sight information, object-position information, object-rotation information, screen-position information and screen-angle information by display-viewpoint/positional information control means see for example column 49 lines 60- 67 for controlling the display of histogram color space (corresponding to pseudo three- dimensional display) 540 (FIG. 29) wherein boxes 522, 524, 536, and 538, controls the positioning (broadly corresponding to the view point and position of a screen) and display along x-axis 542 of each successive L* grouping of colors.

As per claim 3 Beretta teaches the first color system is one type of an RGB color system, a CMY color system, an XYZ color system, an Luv color system and a Lab color system and the second color system is a different type of color system see for example fig. 9 and column 19 lines 20- 25 for RGB into XYZ and LAB values.

As per claims 4 and 17 Beretta teaches the sample points are regularly placed in the form of a grid in the first color system see for example fig. 4,6,7 and 9 for set of values.

As per claims 5 and 18 Beretta teaches in said user's instruction input step, the user instructs a range of grids displayed for each color component in the first color system, and wherein in said generation step, the three-dimensional-object-surface information is generated based on color coordinates of the sample points within the assigned range of grids displayed in the second type of color system see for example column 19 lines 45- 55 wherein the user changes the color space, each of the colors, currently plotted

(corresponding to displaying) according to coordinates in one color space (corresponding to first color system), is converted to the color value representation in the newly requested color space (corresponding to second color system) and plotted in the correct location in the new color space corresponding to the color representation in the second color space.

As per claim 6 Beretta teaches in said user's-instruction input step, the user instructs a number of internal grid layers by using outermost grids as a reference, and wherein in said generation step, the three-dimensional-object-surface information is provided based on color coordinates of sample points in the second color system which are generated by deleting both ends of a maximum grid range in the first color system in accordance with the assigned number of internal grid layers see for example fig. 32b for the color palette (in slices corresponding to layers measured around outer surface of the device gamut) display and editing (deleting) and column 51 lines 1- 35 and also column 54 lines 3- 25.

As per claim 7 Beretta teaches a number of grids of each three-dimensional base in arrangement of sample points on grids in the first color system is the same, and a grid step is the same in each base (see for example figures 4, 7 and 9), and wherein in said generation step, the three-dimensional-object-surface information is generated by providing a tetrahedron having four vertices, which are an origin of grids, an outermost grid point diagonal with respect to the origin, and adjacent grid vertices selected based on a range of hues displayed, and

obtaining color coordinates of sample points on a surface of the tetrahedron region in the second color system see for example figures 9, 11- 13 for the mapping of natural colors in the chromacity diagram and the occurring of the different range of hues in the regions corresponding to different grid points in the coordinate system.

As per claim 8 Beretta teaches the three-dimensional-object-surface information is provided as a set of triangular patches, which are selected so as to maximize a volume of a three-dimensional object from among two types of combinations of triangular patches in a minimum quadrangle configured by grid points see for example figures 4,6,7, and 9 for the different sets of color values (triangular patches) in different three dimensional color spaces.

As per claim 9 Beretta broadly teaches the three-dimensional-object-surface information includes a plurality of sets of surface information, and wherein display state can be arbitrarily switched for each set of surface information, based on preset display-surface-selection information see for example fig. 8a and column 17 lines 60- 65 for the color editing and the user selection for displaying any of different color spaces in which to perform color editing using a toggle switch corresponding to switching set of surface information.

As per claim 11 Beretta teaches when performing pseudo-three-dimensional display of the three-dimensional-object-surface information, a color of a surface of a three-dimensional object is controlled in accordance with color coordinates of sample points in the first color

system see for example figures 29- 31 for the display of histograms (pseudo three-dimensional display) in the respective color space.

As per claim 12 Beretta teaches when performing pseudo-three-dimensional display of the three-dimensional-object-surface information, a color of a surface of a three-dimensional object is controlled in accordance with color coordinates of sample points in the second color system see for example figures 29- 31 for the display of histograms (pseudo three- dimensional display) in the respective color space.

As per claim 13 Beretta teaches the color-distribution information is provided by performing gamut mapping for sample points arranged in the first color system, and acquiring color coordinate values of said sample points in the second color system see for example column 22 lines 20- 35 and fig. 12 and 17 for the gamut mapping.

As per claim 14 Beretta teaches the color-distribution information is provided by performing perception adaptation processing for sample points arranged in the first color system, and acquiring color coordinate values of said sample points in the second color system see for example column 25 lines 60- 67 for changing the saturation value of color corresponding to color adaptation processing in color perception.

As per claim 19 Beretta teaches the surface color information is obtained in accordance with the color coordinate values of the sample points in the first type of color system see for example column 44 lines 65- 68 and (fig. 21- 25) fig. 26 for procedure 390 for computing the graphics data needed to display the gamut in the new

current space (corresponding to second color space) which takes as input the value of the current color space (corresponding to the first color space) just computed in procedure 370.

As per claim 20 Beretta teaches the surface color information is obtained in accordance with the color coordinate value in the second type of color system see for example column 45 lines 1- 5 and (fig. 21- 25) fig. 26 for procedure 390 for computing the graphics data needed to display the gamut in the new current space which takes as input the value of the current color space and the gamut coordinates (corresponding to the color coordinate values of the second color space) just computed in procedure 370.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beretta.

As per claim 10 Beretta does not teach instructions of the user include an instruction to assign a type of a display mode, and wherein display modes include point-model display, wire-frame-model display, polygon-model display, and smooth-shading display.

However, the background of the prior art made of the reference teaches instructions of the user include an instruction to assign smooth-shading display see for example column 3 lines 35- 61.

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of the background of the prior art made of the reference into Beretta to provide a mechanism for operating the display in different modes and therefore provide a range of colors to be generated between two colors specified by the user, making the device efficient and user friendly see for example column 3 lines 50- 60.

Response to Arguments

Applicant's arguments filed 05/17/2006 have been fully considered but they are not persuasive.

As per applicant's remarks on page 13 applicant argues "Tamagawa fails to teach ...three dimensional object surface information in response to user instructions and then performing pseudo three dimensional display according to the three dimensional object surface information".

In response examiner points out to a color-distribution-information input step, of inputting color-distribution information indicating color coordinate values in a second type of color system for sample points in a first type of color system see for example column 6 lines 1- 30 for the first and second colorimeter for measuring colorimetric values (colorimeter value correction corresponding to color distribution from first to second) of the color image; a user's-instruction input step, of inputting an instruction of

a user relating to an operation of generating object-surface information in the second type of color system see for example fig. 3 for the flow chart for generating the colorimetric values for the first and second color system; and a generation step, of generating three-dimensional-object-surface information for the second type of color system in accordance with the instruction of the user, based on the color-distribution information see for example fig. 3 (determining and generating target gradations and colorimetric values in flow chart corresponding to user instructions) and column 6 lines 20- 30 for generation of the three dimensional color image; and performing pseudo three dimensional display according to the three dimensional object surface information see for example fig. 5 corresponding to three dimensional display and column 7 lines 35- 45 for the grid points represented by small circles representing LAB values of a CM lut in the RGB coordinate system corresponding to the pseudo three dimensional display.

As per applicant's remarks on page 13 applicant argues "Beretta fails to teach ...three dimensional object surface information in response to user instructions and then performing pseudo three dimensional display according to the three dimensional object surface information".

In response examiner points out to a color-distribution-information input step, of inputting color-distribution information indicating color coordinate values in a second type of color system for sample points in a first type of color system see for example fig. 9 and column 19 lines 20- 25 for RGB into XYZ and LAB values corresponding to color distribution of color spaces; and a user's-instruction input step, of inputting an instruction

of a user relating to an operation of generating object-surface information in the second type of color system see for example fig. 1 for the user input and color editing means for performing color editing functions on the display means corresponding to generating object surface information; a step of selecting sample points in accordance with said user instructions from the sample points in the first type of color system and obtaining the color coordinate values in the second type of color system for said selected sample points see for example fig. 21- 25 and fig. 26 for procedure 390 for computing the graphics data needed to display the gamut in the new current space (corresponding to second color space) which takes as input the value of the current color space and the gamut coordinates (corresponding to the color values of the second color space) just computed in procedure 370; and a generation step, of generating three-dimensional-object-surface information for the second type of color system in accordance with the instruction of the user, based on the color-distribution information see for example fig.16 a- b for color editing according to the graphical user interface, showing color representation in three- dimensional rectangular and cylindrical coordinate systems corresponding to generation step; and performing pseudo three dimensional display according to the three dimensional object surface information see for example column 50 lines 50- 67 for plotting three dimensional solid of reproducible colors in any available color space corresponding to three dimensional displaying.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is 571-272-7789. The examiner can normally be reached on 8 AM- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Rahmjoo

June 12, 2006

Kee M. Tung
Primary Examiner